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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/620,512

07/16/2003

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7590

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EXAMINER

SANGHAVI, HEMANG

ART UNIT

PAPER NUMBER

2874

DATE MAILED: 07/20/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/620,512	Applicant(s) BLASINGAME ET AL.	
	Examiner Hemang Sanghavi	Art Unit 2874	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 April 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 30-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18, 30-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Applicant's arguments, see pages 5-7, filed 4/12/2006, with respect to claims 1-18 and 30-34 have been fully considered and are persuasive. The rejection of claims 1-18 and 10-34 has been withdrawn. The following rejections are applied in light of new references become available to the examiner.

Claim Objections

Claim 1 is objected to because of the following informalities: In line 5 of claim 1, the term "said optical fiber" lacks antecedent basis. Claim 1 includes the term "an optical fiber receiving structure" but it does not constitute basis for "said optical fiber". Appropriate correction is required.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to

Art Unit: 2874

consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-18 and 30-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayliffe et al (Effective date December 5, 2002).

Ayliffe et al discloses an optical coupling assembly comprising (Fig. 1):

- an optical fiber receiving structure or a sleeve (20);

- an isolator (35) attached to the receiving structure (20);

- a lens (39) is situated at the surface of the isolator; and

wherein the isolator has an index of refraction approximately the same as the index of refraction of a core (15) of an optical fiber. See lines 13-18 of [0028] on page 3.

As to claims 1 and 10, Ayliffe et al fails to state that the isolator stops the fiber in the optical fiber receiving structure.

However, in lines 12-14 of paragraph [0028], Ayliffe states that the fiber ferrule 16 is inserted into receptacle 20 so that glass core 15 physically contacts against isolator 35. As can be seen in Fig. 1, the optical fiber stops after the physically contacts the isolator and it can be move in further.

From collective teachings of Ayliffe et al, the ordinary artisan would have found it obvious at the time of the invention to construed the isolator as a fiber stop or means for stopping the received optical fiber, since the fiber can not be proceed further in the optical receiving structure after contacting the isolator, hence completing the optical fiber coupling assembly.

Art Unit: 2874

As to claims 2 and 11, the isolator of Ayliffe et al can be construed as a window as it is made from glass and provides transition path for light to travel.

As to claims 3 and 12, Ayliffe et al discloses that the isolator is made from a glass material.

As to claims 5 and 14, Ayliffe et al discloses (Fig. 3) the lens as stopping means not requiring isolator. However, it fails to state that the lens has an index of refraction equal to the index of refraction of the core of the optical fiber received in the optical fiber receiving structure.

However, in paragraph [0027] at page 2, Ayliffe et al states that the lens assembly 36 may be formed, partially or completely, of glass or other materials with desired **optical properties**.

It is certainly desirable in Ayliffe et al to make the lens having an index of refraction same as the index of refraction of the optical fiber to suppress the light traveling back from the optical fiber towards the laser. See [0028]

From collective teachings of Ayliffe et al, the ordinary artisan would have found it obvious at the time of the invention to make the lens from the material having the same index of refraction as the core of the optical fiber received in the optical fiber receiving structure for the purpose of advantageously reducing or suppressing the back reflection which is highly desirable in the coupling assembly of Ayliffe et al.

As to claims 6-7 and 15-16, Ayliffe et al teaches that the lens can be made from plastic or glass (see paragraphs [0027] and [0028]).

Art Unit: 2874

As to claims 8-9, 17-18, and 32, Ayliffe et al fails to state the lens is a spherical, aspherical, or ball lens.

However, it is extremely well known in the art to use a ball, spherical or aspherical lens in optical coupling system providing desired coupling. Ayliffe et al also teaches that the lens may be formed of material with desired optical properties.

Lacking criticality in the specification as to a spherical or aspherical and from teaching of Ayliffe et al, the ordinary artisan would have found it obvious at the time of invention to use a ball, spherical or aspherical lens in the optical coupling system of Ayliffe et al as obvious matter of design choice providing a desired coupling between the laser and the optical fiber.

Claims 4 and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ayliffe et al and Aronson et al (US 2004/0101258 A1, effective date Nov. 26, 2002).

As to claims 4 and 13, Ayliffe et al fails to state that the isolator is made from a plastic material.

Aronson et al discloses similar optical coupling arrangement where an optical component (called isolator in Ayliffe et al) can be made from glass, polymer, synthetic materials, natural materials, fused silica, combinations thereof, or any material capable of allowing electromagnetic radiation to propagate therethrough.

Lacking criticality in the specification as to making the fiber stop from plastic and teaching of Aronson et al, the ordinary artisan would have found it obvious at the time of the invention to make the isolator from a plastic material as matter of design choice as

Art Unit: 2874

long as the index of refraction of the isolator remains substantially equal to the core of the optical fiber.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Abe, Edwards et al and Hargis et al disclose different types of optical coupling assemblies including an optical transparent member having a same refractive index as of the optical fiber.

Bergmann et al and Meyer-Guldner disclose substantially claimed invention. However these references are not available as prior art due to their publication date.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hemang Sanghavi whose telephone number is (571) 272-9955. The examiner can normally be reached on Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rodney Bovernick can be reached on (571) 272-2344. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2874

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Hemang Sanghavi
Primary Examiner
Art Unit 2874

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